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EXAMINER

BURCH, MELODY M

ART UNIT

PAPER NUMBER

3683

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,874

Applicant(s)

UMEHARA ET AL.

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-11 and 13-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-11 and 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in amendment B in the last line of the paragraph beginning "With attention riveted...the casing" the phrase "the casing" should be changed back to ---the casting--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7, 10, 19, and 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 7. The phrase "the side of providing said reaction pawl" including but not limited to lines 2-3 of claim 7 is indefinite. It is unclear to the Examiner whether the "side of providing said reaction pawl" is intended to be the same or different side from "the side of molding said reaction pawl" as claimed in the last two lines of claim 6.

Re: claim 17. The phrase "the sprue is disposed in the union hole" in line 2 is indefinite. It is unclear to the Examiner from the claim language whether the sprue and the union hole are intended to be the same or different components. In claim 17 Applicant claims that the sprue is disposed in the union hole as if the two components are distinct elements, one being located within the other. However, in claim 6 line 7 the

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claim language reads "a union hole formed... as a sprue" which suggests that the union hole and the sprue make up the same element. Clarification is required.

Re: claim 19. Claim 19 recites the limitation "a casting" in the last two lines of the claim. It is unclear to the Examiner whether the "casting" in the last two lines of the claim is intended to be the same or different from the casting of the casting method claimed in line 1.

The remaining claims are indefinite due to their dependency from claim 7.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 9, 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-835530 in view of US Patent 4705093 to Ogino.

Re: claims 6, 9, 14, 15, 16 and 17. JP-835530 shows in figure 1 a caliper body of a vehicular disc brake, the vehicular disc brake inherently having a pair of frictional pads disposed opposite to each other with a disc rotor held therebetween, the caliper body including a cylinder 2 disposed on one side of the disc rotor, a reaction pawl 1 disposed on the other side of the disc rotor, and a bridge portion "a" for coupling the cylinder and the reaction pawl at the outer peripheral side of the disc rotor, the caliper body comprising: a union hole shown surrounding element number 5 formed at the bottom

portion of the cylinder of the caliper body capable of being used as a sprue for molding the caliper body with a base material and a cavity shown in the area of element number 4 disposed with the union hole, but does not specifically disclose the limitation of the caliper body being made by a casting method with a base material while the side of molding the bottom portion of the of the cylinder is disposed in a vertically upper part of the cavity and also the side of molding the reaction pawl is disposed in a vertically lower part of the cavity.

Ogino teaches in teaches in col. 2 lines 18-21 the use of a gravity casting method to make a caliper body. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of making the caliper body of JP-835530 to have included gravity casting (inherently resulting in the side of molding the bottom portion of the of the cylinder, which includes the opening for the molten material, being disposed in a vertically upper part of the cavity and the side of molding the reaction pawl being disposed in a vertically lower part of the cavity), as taught by Ogino et al., in order to provide a well-known means of forming the whole shape of the caliper body.

Re: claim 13. Ogino teaches the use of the base material being aluminum or aluminum alloy in col. 2 lines 12-13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the material of JP-835530 to have included aluminum or aluminum alloy, as taught by Ogino, in order to provide a base material that is both lightweight and sufficiently rigid.

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Re: claim 19. JP-835530 shows a flange portion shown in the area of the lead lines associated with element number 5 and letter b shown to the right of the outer face of element 2 formed by processing the sprue after a casting to the same extent as Applicant's since a similar product is shown. Examiner notes that according to MPEP 2113 the patentability of a product does not depend on its method of production. Section 2113 goes on to state that if the product in the product-by-process claim is the same as or obvious from a prior art product, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695,698,227 USPQ 964, 966 (Fed. Cir. 1985).

6. Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-835530 in view of Ogino as applied to claim 6 above, and further in view of JP-1146718. JP-835530 describes the invention substantially as set forth above including the limitation of the side of providing the cylinder being made an action chamber, the side of providing the reaction pawl and the bridge being a reaction chamber, and a thick-walled connection between the cylinder and the bridge is made a central chamber, but does not include the specific volume ratios. JP-1146718 teaches in lines 3-5 and in the last line of the abstract the practice of using optimal volume ratios to achieve little to no sink marks during the cooling process of molten material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the volumes of the various sections of the caliper body of JP-835530, as modified, to have been proportioned to have been in the range of 0.6 to 1.25 for the ratio of the central chamber to the reaction chamber or 0.7 to 1.35 for the ratio of the

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central chamber to the action chamber or any other optimal volume ratios as determined by routine experimentation, in view of the teachings of JP-1146718, in order to provide a means of minimizing shrinkage and sink marks.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP-835530 in view of Ogino as applied to claim 6 above, and further in view of WIPO 98/27353 (using US Patent 6298954 to Weiler et al. as an English equivalent). WIPO 98/27353 teaches in col. 4 lines 13-16 the use of an insert core being incorporated in the casting of a brake caliper body to enable the base material to be injected in symmetry. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the casting procedure of JP-835530, as modified, to have included an insert core, as taught by Weiler et al., in order to provide a means of creating symmetrical caliper chamber walls.

8. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-835530 in view of Ogino and JP-1146718 as applied to claim 7 above, and further in view of WIPO 98/27353 (using US Patent 6298954 to Weiler et al. as an English equivalent). WIPO 98/27353 teaches in col. 4 lines 13-16 the use of an insert core being incorporated in the casting of a brake caliper body to enable the base material to be injected in symmetry. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the casting procedure of JP-835530, as modified, to have included an insert core, as taught by Weiler et al., in order to provide a means of creating symmetrical caliper chambers and to inherently cause the base material to run toward the bridge and toward the reaction pawl by virtue of the

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contact with the peripheral surface of the core in combination with the downward force of gravity.

Response to Arguments

9. Arguments filed 12/6/02 regarding claims 7, 8, 10, 11, and 22 are not persuasive. Applicant states in the specification that the volume ratios are critical in order to provide control of the solidification of the molten material in such a way that no sink marks are produced. JP-1146718 teaches the use of optimal volume ratios to achieve little to no sink marks during the cooling process or solidification of the molten material. Examiner maintains that, in light of the teachings of JP-1146718, one of ordinary skill in the brake art would achieve appropriate volume ratios including but not limited to the claimed ratios depending on the caliper application/environment through routine experimentation. See *In re Jones*, 162 USPQ 224. Examiner also notes that, in regards to the apparatus claims including limitations directed to the method of making the caliper body, the patentability of a product does not depend on its method of production. See the rejection to claim 19 above.

10. Applicant's arguments with respect to claims 6 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmB 3/7/03
mmB
March 7, 2003

M. C. Graham
3/16/2003
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310